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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/536,927	03/27/2000	Andrew M. Hawryluk	3521.125(ALJ)	3973

7590 12/03/2001

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EXAMINER

THOMAS, TONIAE M

ART UNIT	PAPER NUMBER
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2822

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DATE MAILED: 12/03/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/536,927

Applicant(s)

HAWRYLUK ET AL.

Examiner

Toniae M Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 7, 14, 16-20, 22, 23, 53, 58, 59, 61, 63-66, 69, 71 and 72 is/are rejected.
- 7) ☒ Claim(s) 2-6, 8-13, 15, 21, 24-25, 27-52, 54-57, 60, 62-70, 73-74 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

1. This action is a first Office Action on the merits of Application 09/536,927.

Currently, claims 1-74 are pending.

Election/Restrictions

2. Applicant's election with traverse of Group I, claims 1-25 and 27-74 in Paper No. 4 is acknowledged. The traversal is on the ground(s) that "the Applicants believe that even with an election of either species the examiner's search will require a search in the same art that includes both hollow and solid tunnels." This is not found persuasive.

There are two criteria for a proper restriction requirement between patentably distinct inventions. First, the inventions as claimed must be patentably distinct. Secondly, there must be a serious burden to the examiner. In the restriction requirement mailed on 26 July 2001, it was shown that the inventions of Group I and Group II are patentably distinct because the product of Group II as claimed can be made by another an materially different process. Secondly, it was shown that there is a serious burden to the examiner because the inventions of Group I and Group II have acquired a separate status in the art, as shown by their different classifications. Having satisfied the criteria for a proper restriction, the requirement is still deemed proper and is therefore made FINAL.

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Claim 26 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a non-elected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 58 and 59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "the ions" lacks antecedent basis (claims 58 and 53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 7, 14, 16-20, 22, 23, 53, 61, 63-66, 69, and 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakawa (JP 06340500).

Asakawa discloses a method comprising the step of annealing at least one region of a semiconductor substrate with a pulsed beam of particles. The particles in

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the beam include neutral atoms. The particles are formed from an inert gas such as Ar.

The substrate includes silicon. See both JPO and Derwent Abstracts.

Asakawa does not teach the following limitations: the time duration of the pulse beam, the particle energy, the particle dosage, or the energy of a single pulse.

However, "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" (In re Aller 105 USPQ 233 (CCPA)). Therefore the aforementioned limitations are taken to be obvious over Asakawa.

Allowable Subject Matter

5. Claims 2-6, 8-13, 15, 21, 24-25, 27-52, 54-57, 60, 62-70, and 73-74 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toniae M Thomas whose telephone number is (703) 305-7646. The examiner can normally be reached on Monday through Thursday 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead can be reached on (703) 308-4940. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

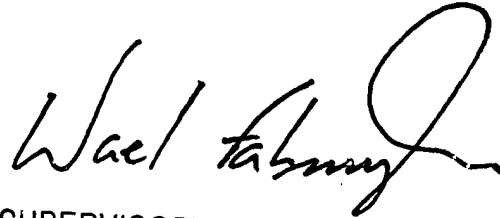
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JMS

November 19, 2001

A handwritten signature in black ink, appearing to read "Wael Tabany". The signature is fluid and cursive, with a large loop at the end.

SUPERVISORY PRIMARY EXAMINER
TECHNOLOGY CENTER 2800